ASSIGNMENT 10

"Automatic Carrier Landing System," chapter 9, and "Electrostatic Textbook Assignment: Discharge Program," chapter 10, pages 9-1 through 10-18.

IN ANSWERING QUESTIONS 10-1 THROUGH 10-4, SELECT FROM COLUMN B THE ITEMS DESCRIBED IN COLUMN A.

A. DESCRIPTIONS B. ITEMS

- 10-1. Used to lock onto 1. ACLS system the landing pattern
 - 2. Autopilot system
- 10-2. Used to establish the proper glide path
- Data link pitch commands
- 10-3. Provides warnings if automatic carrier landing mode becomes uncoupled or is degraded
- 4. Data link roll commands
- 10-4. Ensures that the pilot and the aircraft have the best and safest possible approach and descent to the carrier deck and touchdown
- What system provides the interface 10-5. between the data link and the flight control surfaces?
 - 1. APC
 - 2. AFCS
 - 3. DDCS
 - 4. R-DG
- 10-6. Data link messages and signals are received, invalid messages are screened out, and signals are sent to the autopilot system by what system?
 - 1. APC
 - 2. AFCS
 - 3. DDCS
 - 4. R-DG

- 10-7. What system determines the glide-path errors from the carrier's instrument landing system radar?
 - 1. APC
 - 2. AFCS
 - 3. DDCS
 - 4. R-DG
- 10-8. The glide-path, pulse-coded, Ku-band information is transmitted from the carrier to the aircraft by what system?
 - 1. LCCS
 - 2. ACLS
 - 3. ILS radar
 - 4. Radar beacon
- 10-9. Ka-band signals are transmitted from the carrier to the aircraft to track the aircraft and compare the aircraft's position to the desired glide path by what system?
 - 1. LCCS
 - 2. ACLS
 - 3. ILS radar
 - 4. Radar beacon
- 10-10. What subsystem of the AN/SPN-42 system will generate a waveoff signal?
 - 1. Control console
 - 2. Data link monitor
 - 3. Digital computer
 - 4. Tracking pulse radar set
- 10-11. What system transmits X-band replies to the carrier to provide precise aircraft position data?
 - 1. LCCS
 - 2. ACLS
 - 3. ILS radar
 - 4. Radar beacon

- 10-12. To maintain the angle-of-attack, and thus the airspeed during aircraft landing approach, what system automatically adjusts the throttles?
 - 1. APC
 - 2. AFCS
 - 3. DDCS
 - 4. R-DG

IN ANSWERING QUESTIONS 10-13 THROUGH 10-16, SELECT FROM COLUMN B THE COMPONENT DESCRIBED IN COLUMN A.

A. DESCRIPTIONS B. COMPONENTS

- 10-13. Determines and displays backup pitch and roll attitude
- 1. Discrete message indicator
- 2. VGI
- 10-14. Displays nine status indications 3. from the one-way link system, the radar beacon, and 4.

autopilot

- Approach indexer
 - Warning indexer panel
- 10-15. Provides another angle-of-attack in the pilot's field of view
- 10-16. Provides status indications for the APC and AFCS, and whether a waveoff has been initiated
- 10-17. A fully automatic approach from entry point to touchdown on the flight deck is what ACLS mode of operation?
 - 1. Mode I
 - 2. Mode II
 - 3. Mode III
 - 4. Mode IV

- 10-18. Manual pilot control to touchdown on the flight deck with talkdown guidance by a shipboard controller is what ACLS mode of operation?
 - 1. Mode I
 - 2. Mode II
 - 3. Mode III
 - 4. Mode IV
- 10-19. During Mode I landing operation, the pilot is cleared for approach by what indicator illumination on the discrete message indicator?
 - 1. CMD CONTROL
 - 2. ACL READY
 - 3. AP CPLR
 - 4. LDG CHK
- 10-20. During Mode I landing operation, deck motion compensation will be added to the glide-path commands at how many seconds from touchdown?
 - 1. 1.5 sec
 - 2. 12.5 sec
 - 3. 15.0 sec
 - 4. 17.5 sec
- 10-21. During Mode I landing operation, the landing system will freeze the pitch and bank commands at how many seconds from touchdown?
 - 1. 2.5 sec
 - 2. 2.0 sec
 - 3. 1.5 Sec
 - 4. 1.0 sec

IN ANSWERING QUESTION 10-22, REFER TO FIGURES 9-4 AND 9-5 IN THE TEXTBOOK.

- 10-22. During Mode I landing operation, the LCC sends a wave-off signal automatically if the aircraft exceeds the boundaries at how many seconds from touchdown?
 - 1. From 2.5 to 17.5 sec
 - 2. From 2.0 to 10.0 sec
 - 3. From 1.5 to 12.5 sec
 - 4. From 1.0 to 7.5 sec

- 10-23. At which of the following frequencies is atmospheric static most critical?
 - 1. 500 kHz
 - 2. 25 MHz
 - 3. 50 MHZ
 - 4. 500 MHz
- 10-24. Precipitation static is a severe problem in which of the following frequency bands?
 - 1. Low only
 - 2. Medium only
 - 3. Low and medium
 - 4. Ultra high
- 10-25. Cosmic noise is normally heard in which of the following frequency bands?
 - 1. Low only
 - 2. Medium only
 - 3. Low and medium
 - 4. Ultra high
- 10-26. Which of the following is a typical source of sustained switching transients?
 - 1. Receivers
 - 2. Transmitters
 - 3. Synchronizers
 - 4. Generators
- 10-27. Broadband random noise consists of impulses that have which of the following characteristics?
 - Regular in shape and recurrence rate
 - Irregular in shape and duration
 - Constant in voltage and duration only
 - 4. Constant in voltage, duration, shape, and recurrence rate
- 10-28. A circuit or device that carries a varying electrical current is a potential source of receiver interference.
 - 1. True
 - 2. False

- 10-29. What type of dc motor, if any, is more apt to cause interference (noise) in a radio receiver?
 - 1. Permanent magnet
 - 2. Series wound
 - 3. Shunt wound
 - 4. None
- 10-30. The control circuit of a relay may cause more interference than the higher powered circuit being controlled by the relay.
 - 1. True
 - 2. False
- 10-31. Radio interference from operating radar is most likely caused by which of the following circuits?
 - 1. Indicator
 - 2. Modulator
 - 3. Receiver
 - 4. Synchronizer
- 10-32. In the tuning band of a receiver, oscillator leakage is the greatest at which of the following points?
 - 1. Both the high and low ends
 - 2. The low end
 - 3. The middle range
 - 4. The high end
- 10-33. If a receiver has an operating frequency of 150 MHz and an IF of 20 MHz. what is the oscillator leakage frequency?
 - 1. 20 MHz or 150 MHz
 - 2. 120 MHz or 150 MHz
 - 3. 130 MHz or 170 MHz
 - 4. 150 MHz or 170 MHz
- 10-34. Radio interference is caused by a cold-solder joint for which of the following reasons?
 - Its reactance varies with applied voltage
 - 2. Its resistance varies with applied voltage
 - 3. Its capacitance varies inversely with frequency
 - 4. Its inductance varies with frequency

- 10-35. A receiver tuned to 2.4 kHz 10experiences extreme full-wave rectification interference. Which of the following aircraft components is the probable source?
 - 1. Starter motor
 - 2. Wing-flap motor
 - 3. Single-phase invertor
 - 4. Three-phase generator

IN ANSWERING QUESTION 10-36, REFER TO FIGURE 10-1 IN THE TEXTBOOK.

- 10-36. Interference is very low at the power source for which of the following reasons?
 - Source operation high frequency
 - 2. Source operation low frequency
 - 3. Battery high impedance
 - 4. Battery low impedance
- 10-37. Which of the following actions will reduce inductive magnetic coupling in aircraft wiring?
 - Increasing the spacing between the wires
 - Decreasing the spacing between the wires
 - Decreasing the angle between the wires
 - 4. Replacing all the existing wire with shielded wire
- 10-38. Which of the following antenna leads is a source of radio receiver noise in the HF range?
 - 1. Shielded receiver
 - 2. Unshielded receiver
 - 3. Shielded transmitter
 - 4. Unshielded transmitter
- 10-39. What elements are normally used to achieve interference reduction at the source?
 - 1. High-frequency diodes
 - 2. High-value components
 - 3. Discrete components
 - 4. Transistors

- 10-40. The efficiency of a perfect capacitor in bypassing radio interference increases in what proportion to the capacitance of the capacitor?
 - 1. Linearly
 - 2. Exponentially
 - 3. Directly
 - 4. Indirectly
 - 10-41. The value of a capacitor as a bypass is lost at which of the following frequencies?
 - 1. At the resonant frequency
 - 2. At frequencies much lower than the resonant frequency only
 - 3. At frequencies much higher than the resonant frequency only
 - At frequencies much higher and lower that the resonant frequency
 - 10-42. The ideal position to place a capacitive filter to reduce radio interference is in what location?
 - 1. Between the source of the interference and the receiver
 - 2. Close to the source of interference
 - 3. The receiver circuit
 - 4. The source circuit
 - 10-43. Feedthrough capacitors used to filter interference in an ac circuit should have a voltage rating of at least what magnitude across the capacitor?
 - 1. Twice the applied voltage
 - 2. Twice the peak voltage
 - 3. Four times the applied voltage
 - 4. Four times the peak voltage

- 10-44. A capacitor is NOT normally used 10-49. The bandpass filter configuration alone as a filter in a dc switching circuit for which of the following reasons?
 - 1. It only works in an ac circuit
 - 2. Its reactance is too high for a dc circuit
 - 3. Its value is too large for a de circuit
 - 4. Its interference exceeds that of opening an unfiltered circuit
- 10-45. A resistor used for proper RC filtering should be what size in respect to the load resistance?
 - 1. One-fifth
 - 2. One-fourth
 - One-third
 - 4. One-half
- 10-46. When the inductance-capacitance filter method is used, the inductor should be connected in the dc power supply in what configuration with respect to the load?
 - 1. In series only
 - 2. In parallel only
 - 3. In series or parallel, depending on the inductor rating
 - 4. In series-parallel
- 10-47. An ideal low-pass filter has no insertion loss at which of the following frequencies?

 - At its cutoff frequency
 Below its cutoff frequency only
 - 3. Above its cutoff frequency only
 - 4. Above or below its cutoff frequency
- 10-48. To eliminate radiation of harmonics produced by an overdriven output amplifier, what type of filter is used?
 - 1. Bandpass
 - 2. Band-reject
 - 3. Low-pass
 - 4. High-pass

- of sections for an antenna is normally selected so the upper limit of the pass band approaches or exceeds the frequency of the lower limit of the pass band by what multiple factor?
 - 1 Six
 - 2. Two
 - 3. Eight
 - 4. Four
- 10-50. Band-reject filter elements are arranged in which of the following basic configuration?
 - 1. W-section
 - 2. V-section
 - 3. P-section
 - 4. L-section
- 10-51. Which of the following bonding methods is considered ideal for all frequencies?
 - 1. Direct
 - 2. Indirect
 - 3. Simplex
 - 4. Multiple
- 10-52. Which of the following lengths of bonding jumpers is the most effective in eliminating lightning discharge?
 - 1. 8 in.
 - 2. 2 in.
 - 3. 6 in.
 - 4. 4 in.
- 10-53. What is the lowest voltage that will destroy or damage an ESD-sensitive device?
 - 1. 10 V
 - 2. 20 V
 - 3. 30 V
 - 4. 35 V
 - 10-54. The generation of static electricity on an object by rubbing is known as the
 - 1. electrostatic charge
 - 2. dielectric effect
 - 3. triboelectric effect
 - 4. prime charge

- 10-55. When rubbed against any of the other three, which of the following substances will assume the positive charge when separated?
 - 1. Saran
 - 2. Nickel
 - 3. Steel
 - 4. Aluminum
- 10-56. Under which of the following conditions is generated static electricity decreased?
 - 1. Hot air
 - 2. Dry air
 - 3. Cold air
 - 4. Humid air
- 10-57. Which of the following is NOT an ESD prime generator?
 - 1. Synthetic mats
 - 2. Vinyl
 - 3. Common solder suckers
 - 4. Carbon impregnated polyethylene

- 10-55. When rubbed against any of the other three, which of the personnel ground straps?
 - 1. 25,000 ohms
 - 2. 150,000 ohms
 - 3. 250,000 ohms
 - 4. 500,000 ohms
 - 10-59. Which of the following procedures should NOT be performed when working on ESD-sensitive devices?
 - Make continuity checks on personnel ground straps with a Simpson 260 meter or equivalent
 - Ground the work area, personnel ground straps, and equipment
 - 3. Make periodic electrostatic measurements at all ESD-protected work areas
 - 4. Wear cotton smocks when working with ESD-sensitive devices

COURSE COMPLETION/DISENROLLMENT FORM (Refer to instructions in front of course)

PLEASE PRINT CLEARLY

AVIATION ELECTRONICS TECHNICIAN 1 (ORGANIZATIONAL)	82331
NONRESIDENT TRAINING COURSE (NRTC)	NAVEDTRA NUMBER
NAME, RANK, RATE, CIVILIAN	SSN
IF YOUR COURSE WAS ADMINISTERED BY NETPMSA, YOU MUST THE ADDRESS BELOW. IF YOUR COURSE WAS ADMINISTERED COMMAND OR NAVAL RESERVE CENTER, DO NOT SUBMIT THIS	BY AN ACTIVE DUTY
COURSE COMPLETION (Date)	
YOU SHOULD RETAIN THE TRAINING MANUAL AND THE A THEY ARE NOT CLASSIFIED. If CLASSIFIED, submit the command for proper disposition of CLASSIFIED material satisfactory completion will be issued to you after its received and processed. This form should be incl	material to your al. A letter of your last assignment
the last assignment. If the training manual and NRT designated with distribution statements B, C, D, E, decide to dispose of the material, you must destroy prevent disclosure of contents or reconstruction of	C courses are F, or X, and you the material to
DISENROLLMENT (Date (Did not complete the course)	
In the event of disenrollment, submit this form with any unused ADP answer sheets. You need not ret material. If the course material is CLASSIFIED, you material to your command for proper disposition of Classified the training manual and NRTC courses are designate statements B, C, D, E, F, or X, and you decide to dismaterial, you must destroy the material to prevent our reconstruction of the document.	turn any other course must submit the CLASSIFIED material. ted with distribution ispose of the
OTHER REASON (Specify):	
PRIVACY ACT STATEMENT	
Inder authority of Title 5, USC 301, information regarding your military storocessing your comments and prepare a reply. This information will not uthorization, to anyone other than those within DOD for official use in determine the control of th	t be divulged, without written

NETPMSA 1550/31 (Rev. 2-93)

COMMANDING OFFICER
NETPMSA CODE 074
6490 SAUFLEY FIELD RD
PENSACOLA FL 32559-5000

STUDENT COMMENT SHEET

THIS FORM MAY BE USED TO SUGGEST IMPROVEMENTS, REPORT COURSE ERRORS, OR TO REQUEST HELP IF YOU HAVE DIFFICULTY COMPLETING THE COURSE.

	Date
	ssn
NAME (Last, first, M.I.) RANK, RATE, CIVILIAN	
STREET ADDRESS, APT #	
	ZIP CODE
ATMY AMAMA	

CITY, STATE

To: COMMANDING OFFICER
NETPMSA CODE 315
6490 SAUFLEY FIELD RD
PENSACOLA FL 32509-5237

Subj: AVIATION ELECTRONICS TECHNICIAN 1 (ORGANIZATIONAL), NAVEDTRA 82331

1. The following comments are hereby submitted:

PRIVACY ACT STATEMENT

Under authority of Title 5, USC 301, information regarding your military status is requested to assist in processing your comments and prepare a reply. This information will not be divulged, without written authorization, to anyone other than those within DOD for official use in determining performance.

..... (Fold along dotted line and staple or tape.....

.......(Fold along dotted line and staple or tape).......
DEPARTMENT OF THE NAVY

COMMANDING OFFICER
NETPMSA CODE 315
6490 SAUFLEY FIELD RD
PENSACOLA FL 32509-5237

OFFICIAL BUSINESS
PENALTY FOR PRIVATE USE. \$300

COMMANDING OFFICER
NETPMSA CODE 315
6490 SAUFLEY FIELD RD
PENSACOLA FL 32509-5237

Stock 0	rdering To. (9502-LP-216-0100								
PRINT OF	R TYPE									
TITLE_						BAVBDTRA_				
NVRB	Last	Pirst	Hiddle	_ADDR	BSS	Street/Ship	/Bait/B	vision	etc	
	Pasc	FILEC	Blueic			octeeciontp	, GB1C , D	TATE TOE !	6661	
RAUK/RA	TBSOC. S	SEC. NO			City _DBSIG	or PPO IATOR		E Sigunbut	¥0	Zip
O USB	OSUR C	ACTIVE INACTI	VE OTHER	(Spe	cify)_	· · · · · · · · · · · · · · · · · · ·	DATI	R MAILED		
										SCORE
1	2 3 4		1 2 T P	3	4		1	2 3 P	4	
, 🗀			26 🗆 🗆				51 C			
2 🗆			27 🗆 🗆				52 C			
3 🗆			28 🗆 🗆				53 C			
, 🗆			29 🗆 🗆				54 □			
5 🗆			30 🗆 🗆				55 C			
6 □			31 🗆 🗆				56 C			**
, 🗆			32 🗆 🗆		\Box $-$		57]	
8 🗆			33 🗆 🗆				58			
∟ و			34 📙 🖂		닠_		59 L			
10 🗀			35 🗀 🗀				60 L		. <u> </u>	
11 🗆			36 🗆 🗆		<u>_</u> _		61 -			
12 🗆			37 🗆 🗆		<u>_</u> _	······	62 L			
			39 🗆 🗆			<u>,</u>	63 L			· · · · · · · · · · · · · · · · · · ·
			41 🗆 🗆							
18			43 🗆 🗆				68 □			
			44 O O				69 □			

			49 🗆 🗆							
25 📙			50 🗆 🗆	Ц	□ _		75 L		」 □ _	

THIS FORM MAY BE LOCALLY REPRODUCED